Medication Safety Today

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Valproate medicines

Valproate medicines (which include Epilim® and Depakote®) must no longer be used in women or girls of childbearing potential unless the conditions of the Pregnancy Prevention Programme are met and only if other treatments are ineffective or not tolerated, as judged by an experienced specialist.

Valproate is highly teratogenic and evidence supports that use in pregnancy leads to physical birth defects in 10 in every 100 babies (compared with a background rate of 2 to 3 in 100) and neurodevelopmental disorders in approximately 30 to 40 in every 100 children born to mothers taking valproate.

All women and girls (and their parent, caregiver, or responsible person, if necessary) should be fully informed of the risks and the need to avoid exposure to valproate medicines in pregnancy. Use of valproate in pregnancy is contraindicated for bipolar disorder and must only be considered for epilepsy if there is no suitable alternative treatment.

Further information is available via the following link https://www.gov.uk/drug-safety-update/valproate-medicines-epilim-depakote-contraindicated-in-women-and-girls-of-childbearing-potential-unless-conditions-of-pregnancy-prevention-programme-are-met

Intravenous paracetamol

Medication incidents continue to be reported involving incorrect dosing of intravenous paracetamol. There are three key points to check before prescribing intravenous paracetamol.

1. **Weight** - patients weighing ≤ 50kg should have doses based on weight

Patients >10 to ≤50kg - 15mg/kg per dose

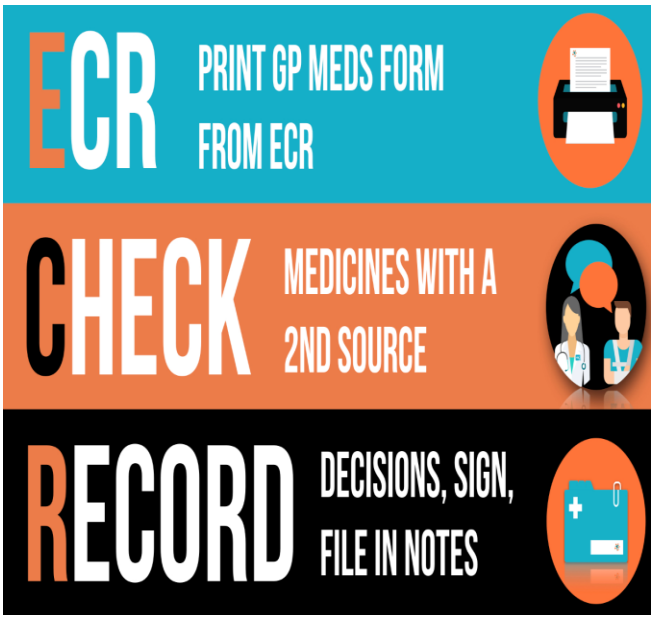
Patients ≤ 10kg - 7.5mg/kg per dose

2. **Liver function** – patients >50kg, maximum of 3g in 24 hours if at risk of hepatotoxicity e.g. hepatocellular insufficiency, chronic alcoholism, chronic malnutrition (low reserves of hepatic glutathione), dehydration

3**. Renal function** – increase interval between doses to 6 hourly if CrCl ≤ 30ml/min

Getting it Right

The World Health Organisation (WHO) recently launched the third Global Patient Safety Challenge with the theme of medication safety Link. This includes a recommendation to reduce medication errors that can occur when a patient moves from one care setting to the next and highlights that ensuring medicines are correct at admission to hospital can have an impact on length of stay. Quality Improvement projects have shown that following these three steps will increase the likelihood of getting patients medicines right at admission.



Taking a few moments to follow these three steps on admission could save more time further down the line. Printing the GP Meds Form avoids unnecessary transcription from the screen to a handwritten list in the notes, saving you valuable time and increasing the accuracy of records. Checking the medicines on the GP Meds Form with a second source and documenting decisions on it reduces queries later and increases the accuracy of prescribing.

Hyperkalaemia in adults

Serious overdoses of insulin have occurred in the past in the treatment of hyperkalaemia in adults. To avoid recurrence, a hyperkalaemia kit (shown below) and regional guidance[1] were introduced in Northern Ireland a number of years ago.

Remember: to treat hyperkalaemia in adults the dose of soluble insulin is **10units** and this dose must be **second checked** with the senior nurse on duty.

1. https://www.rqia.org.uk/RQIA/files/6f/6f51b366-f8bf-44de-a630-6967d5353a87.pdf

Is it 'micrograms' or 'mcgs'?

A Serious Adverse Incident (SAI) has recently been reported where a patient received 1000 times the intended dose of a medicine. Ethinylestradiol 2 microgram was intended however ethinylestradiol 2mg was prescribed. As the dose was steadily increased over 2 years, confusion over the units led to multiple prescriptions for the incorrect strength.

All staff are reminded that when dosages are required in 'micrograms', the full term should be written as 'micrograms' and not shortened to 'mcgs'. Full medicines reconciliation should take place when patients are admitted to hospital and in primary care, when patients are transferred back to the GP, to ensure new medicines are at appropriate doses in all documentation.

Inhaler counselling checks

Do you always check if a patient can use their inhaler correctly?

There have been recent reports of incidents relating to inhalation of the dry powder capsule from the mouthpiece associated with the Braltus® (tiotropium) Zonda inhaler. In these incidents patients have placed the capsule into the incorrect chamber, resulting in the capsule being inhaled into the back of the throat, risking aspiration or airway obstruction.

Staff should:

- ✓ observe patients taking inhalers in hospital and confirm correct use
- ✓ remind patients to refer to the information provided with inhalers
- ✓ advise patients that if they wish to carry additional capsules, they must not store them in the mouthpiece

Level Crossing

Therapeutic Drug Monitoring (TDM) involves measuring the drug concentration in blood, serum or plasma. Not all medications require routine monitoring but TDM is essential for those with a narrow therapeutic range or significant pharmacokinetic variability. The results of TDM are used to tailor dosing so that drug concentrations are maintained within a specific target range for optimal clinical outcome.

Some medicines that involve TDM include:

Therapeutic category	Examples
Antiepileptics	Phenytoin
Antiarrhythmics	Digoxin
Antibiotics	Gentamicin, Tobramycin, Vancomycin, Teicoplanin
Bronchodilators	Theophylline
Immunosuppressants	Ciclosporin, Tacrolimus, Sirolimus
Mood stabiliser	Lithium

Errors can lead to toxic levels causing harm or sub-therapeutic levels resulting in treatment ineffectiveness.

Do you know which medications used on your ward require TDM and the reasons why TDM is required for them? Check your local policies or guidance on TDM medications.

Remember, if a medication requires TDM, ensure the following:

- ✓ Monitoring requirements are clearly documented for staff to follow
- ✓ Blood sampling is carried out according to monitoring requirements
- ✓ The timing of dose administration and sampling is recorded to enable correct interpretation of the result
- ✓ All necessary monitoring has been requested and is carried out. Confirm if the results are required before proceeding with the next dose or if administration can continue
- ✓ If in doubt, check with the prescriber or the ward pharmacist to clarify monitoring requirements

If you have any comments on this newsletter, please contact Sharon O'Donnell, Medicines Governance pharmacist on 02890638129 at BHSCT or by e-mail at sharon.odonnell@belfasttrust.hscni.net.
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